

Wine Industry Water Conservation & Reuse

"You never miss the water 'til the well runs dry."

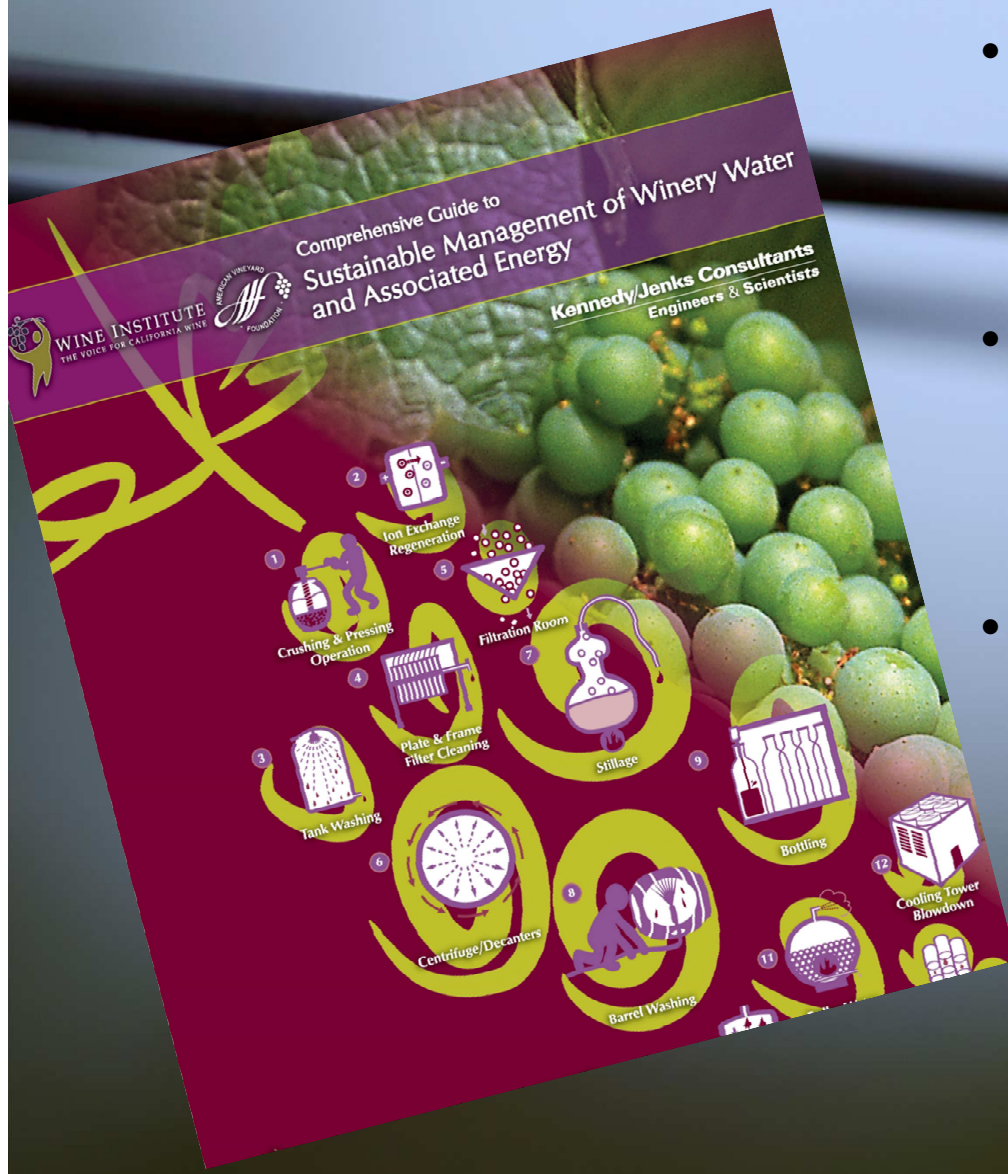
-Scottish Proverb



Formula for Success

- **Baseline Water Usage**
 - *Understand sources and uses of water – assign cost per gallon*
- **Enact Conservation Measures**
 - *Low hanging fruit to reduce water footprint*
- **Implement Reuse Technologies**
 - *Increase productivity of water resources*
- **Encourage Behavior Change**
 - *Communicate goals and incentivize change*

Water Audits



- **California Sustainable Winegrowing Alliance – Winery Water Guide**
 - http://www.wineinstitute.org/winery_waterguide
- **Flowmeters!**
 - Intake
 - Discharge
 - Processes
- **Calculate “True” cost of water**
 - Pumping
 - Treating
 - Heating
 - Disposal

Water Conservation & Reuse

Squeegees reduce water for floor cleaning

- High pressure **hose nozzles**
- Optimize building **HVAC** settings
- Plumb **cooling towers** for reuse
- Reuse process water for **vineyard irrigation**
- pH balanced **caustic tank cleaner**
- **PIG systems** for pushing wine with compressed N₂
- **High Speed Rollup Doors** keep warehouses cold
- **Rainwater capture**

Barrel Wash Water Recycling Units

**Reuses water 3x before
sending to the drain**



*Using technology to conserve irrigation
water – Partnering with Agencies
Fruition Science & PureSense*

**We let the vine tell us
exactly when it needs to
be irrigated, and how
much water it requires**



Behavior Change

- **Quarterly Resource Intensity Reports**
 - Increase Transparency among facilities
- **Identify water and energy intensity**
 - KPIs based on tons crushed / barrels maintained
- **Incentives & Goalsetting**
 - Communicate goals with facilities and incentivize results

Monterey Water Intensity
gallon of water per gallon of wine produced



Oakville Water & Energy Resource Profile

